

the cavity, wherein said die unit has opposed first and second face surfaces that define a height of the gate;

at least one insert disposed in the cavity that defines a surface of the lens to be molded; and

B<sup>6</sup> a gate member releasably secured to said die unit against the first face surface in the gate, said gate member having a height less than the height of the gate so that the gate member and the second face surface of said die unit collectively define a gate opening through which the thermoplastic resin flows into the cavity.

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REMARKS

This paper is submitted in response to the Office Action for the above-identified application mailed April 5, 2000.

In the Office Action, all of the claims presented for review, Claims 1-7 and 11-27, were rejected under 35 U.S.C. § 103 for being obvious in view of U.S. Patent No. 5,702,735 to Martin in view of U.S. Patent No. 4,540,534 to Grendol.

Before discussing the Office Action, the Applicants call to the attention of the Examiner that, on April 6, 2000, they filed an Information Disclosure Statement for this application with the Patent and Trademark Office. The *Manual Of Patent Examining Procedure*, Sec. 609, states that an information disclosure statement is considered timely filed if it is filed with three (3) months of the filing date of the associated application even if that application is a continuation application. This section states that as long as the statement is:

filed within 3 months of the filing date, including the filing date of a CPA, [it] will be considered by the examiner, regardless of whatever else has occurred in the examination process.

In the present situation, the Applicants filed their Information Disclosure Statement within two months of the filing of their Request For Continuing Prosecution. Therefore, this Information Disclosure Statement was timely filed and should be considered without the payment of any additional fees.

If the Office's file for this application does not include the references cited in this Information Disclosure Statement or the Form PTO-1449 provided with it, a call to the undersigned representative will result in prompt delivery of replacement copies of the missing papers.

Initially, in this Response, the Applicants make a minor change to the specification. This change does not add new matter to this application.

In the Response the Applicants also amend Claims 1, 3, 4, 7, 11-16 and 18. No claims have been canceled or added. Claims 1, 4, 11, 15 and 18 remain the independent claims of this application.

Applicants' invention as recited by independent Claims 1 and 4 is directed to "A lens producing method." This is not the process to which Martin is directed. Instead, this document discloses:

[A]n apparatus and method for molding front and back curve mold halves which are used for *subsequent* molding of a soft contact lens therebetween.<sup>1</sup>  
(*Emphasis Added*)

Martin refers to his end products as front and back mold halves, 10 and 30, respectively. The front mold half is shaped to have a surface 12 with an optical quality concave curve. This surface defines the outer surface of the contact lens to be molded.<sup>2</sup> The back mold half has a complementary

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<sup>1</sup> U.S. Pat. No. 5,702,735, column 1, lines 13-16.

<sup>2</sup> *Ibid.*, column 6, lines 25-29 and column 10, lines 18-19.

outer convex surface that defines the inner surface of the contact lens that rests upon the eye.<sup>3</sup> Mold halves 10 and 30 are formed to also have planar flanges 18 and 36, respectively, that extend around their lens-defining curved surfaces. These flanges facilitate demolding and part handling. The flanges also protect the optical surfaces of the lens molded by the mold halves.<sup>4</sup> Each mold half also has a tab. The tab is the portion of the mold half that extends from the point the material forming the mold half is injected for an injector.<sup>5</sup> The tabs provide strength prior to demolding.<sup>6</sup>

Thus, Martin does not teach anything relevant to Applicants' method Claims 1-7 which are directed to a "lens producing method." The Applicants acknowledge that Martin discloses that his mold halves each have a small projection, projection 24 of front mold 10. This projection is located at the end of the tab that is spaced from the lens-defining surface of the mold. These projections are formed as result of wells which exist in the lens-defining mold halves to "catch the first injected thermoplastic" which can otherwise adversely affect the quality of the mold half that is formed during the molding operation.<sup>7</sup> Thus, these projections are formed as a byproduct of the forming of the mold half. There is no suggestion that they exist, like the Applicants' claimed method of controlling gate size, as a means to regulate the flow of resin into the lens-defining cavity. Moreover, these projections are spaced well away from the lens-defining surfaces of the mold halves. This is not like the claimed invention in which the size of the gate that opens "directly

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<sup>3</sup> *Ibid.*, column 9, lines 15-20 and column 10, lines 19-21.

<sup>4</sup> *Ibid.*, column , lines 39-40.

<sup>5</sup> *Ibid.*, column 7, lines 1-2.

<sup>6</sup> *Ibid.*, column 8, lines 41-43.

<sup>7</sup> *Ibid.*, column 8, lines 4-22.

into the lens cavity" is regulated as a function of lens shape.<sup>8</sup>

Grendol discloses an apparatus and method for molding a lens wherein the upper and lower dies 59 and 60, respectively, are held in upper and lower interior blocks 54 and 59, respectively.<sup>9</sup> This is the same as what the Applicants describe as the prior art in which a lens-defining cavity is formed by the placement of inserts in insert guides.<sup>10</sup> This does not suggest the claimed invention wherein there is a gate open directly into the lens cavity and the shape of the gate opening is changed as a function of the minus/plus state of the lens being molded.

Moreover, Grendol actually teaches something very different from the claimed invention. Grendol states that in a "preferred embodiment" the lower interior block is shaped with a cavity so that, in the molding process, a tip 25 is formed adjacent the lens. This tip allows the finished lens to be inclined when placed on a flat surface.<sup>11</sup> This does not suggest the Applicants' invention as defined by Claim 3 in which a gate top member is releasably secured to the injection molding die within the gate to define the gate opening.

Thus, Grendol, like Martin, does not disclose anything relevant to Applicants' claimed method of molding a lens in which the opening of the gate that leads directly into the lens cavity is changed as function of the type of lens that is molded. A benefit of this arrangement is that the control of molten resin flow into the lens cavity is set as a function of the type of lens being molded. This ensures that the flow of resin into the cavity is appropriate for the specific lens. This flow control thus ensures that, regardless of type of

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<sup>8</sup> Applicants' Claim 1.

<sup>9</sup> U.S. Patent No. 4,540,534, Figure 4.

<sup>10</sup> Applicants' specification, page 1, lines 14-17.

<sup>11</sup> U.S. Pat. No. 4,540,534, column 3, lines 39-41.

lens being molded, the end product will be of desirable quality.

The prior art, even when combined, fails to suggest the method of lens molding recited by Applicants' Claims 1-7 or one having its advantages. Accordingly, it is submitted that these claims define a method of manufacture that is patentable over the prior art and the claims themselves are in an allowable state.

Applicants' independent Claim 11 is directed to an injection molding die in which there is a gate in which there is a gate top member immediately adjacent the lens cavity with which the gate is associated. This gate member is exchangeably located in the gate. Independent Claim 18 is directed to a die assembly in which there is lens cavity and a gate immediately adjacent the lens cavity. The assembly of Claim 18 has a gate member releasably secured to the die unit against a first face of the gate so to define a gate opening through which resin flows into the lens cavity.

Again, Martin is simply directed to a machine for making mold halves. It does not teach one for making lenses.

Grendol discloses an injection molding die wherein resin flow into the cavity 86 is through a passageway 39 and sprue 23. There is no suggestion that, in the section of the sprue immediately adjacent the cavity, an exchangeable member be provided that regulates the size or shape of the opening into the cavity.<sup>12</sup> Thus, this document is directed to a conventional lens molding assembly.

Accordingly, even when these documents are combined, the sum does equal a lens molding assembly with a removable gate member adjacent the lens cavity for defining the geometry of the gate opening into the lens cavity.

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<sup>12</sup> *Ibid.*, Figures 4 and 5.

Applicants' claimed assembly is designed so that the gate opening can be varied as a function to the type of lens the assembly is used to fabricate. The claimed assembly is useful for producing different types of quality lenses even though the lenses themselves have different shapes.

The prior art combination simply does not have the structural features or the advantages of Applicants claimed assembly of Claims 11-14 and 18-27. Accordingly, these claims are directed to an invention entitled to patent protection.

Claim 15 is directed to a lens molding that has plural lens portions that were molded in lens cavities within an injection molding die. The claimed molding has a runner portion that connects the lens portions. There is a sprue portion connected to the runner portion. The claimed assembly also has pinch portions. Each pinch portion is located between the sprue portion and one of the runner portions.

Martin only discloses the finished shape of some mold halves. This document does not teach anything about how these mold halves are placed together or the structure of the end product that they are used to form. Accordingly, this document is not relevant to the invention defined by Claim 15.

Grendol simply discloses how a single piece of plastic, "inlet runner or sprue 23" extends from the molded lens.<sup>13</sup> It does not suggest the structure of the invention of Claim 15 in which there is both a sprue and a runner and a pinch portion between these two sections.

Accordingly, the assembly of Claim 15 likewise is a non-obvious departure from the prior art that is eligible for patent protection.


The dependent claims are all allowable at least because they depend from allowable independent claims.

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<sup>13</sup> *Ibid.*, column 3, lines 37-40.

In conclusion, the Applicants respectfully submit that all the claims of this application are directed to a patentably invention and are in an allowable state. Since the claims, as well as the other parts of this application, are in an allowable form, the Applicants now courteously solicit prompt issuance of a Notice of Allowance.

Respectfully submitted,

  
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